REMARKS

Upon entry of the present amendment, claims 1 and 3-12 will remain pending in the above-identified application and stand ready for further action on the merits.

Claim 1 has been amended herein to include the limitations of claim 2. Claim 2 has been cancelled. Claims 4-12 have been added.

No new matter is being introduced by the present amendment. For example, new claim 4 is based on the disclosure at page 2, line 15 of the specification. New claim 5 is based on the disclosure at page 2, line 15 and Table 1 at page 7 of the specification. New claims 6-8 are based on the disclosure at page 3, lines 25-29 of the specification. New claim 9 is based on the disclosure at page 3, lines 25-29 of the specification. New claims 10-12 are based on the disclosure at page 4, lines 1-6 of the specification.

Proper consideration of each of the pending claims (i.e., claims 1 and 3-12) is respectfully requested at present, as is entry of the present amendment.

Claim Rejections Under 35 USC § 102

Claims 1-3 have been rejected under 35 USC § 102(b) as being anticipated by Kani US '758 (US 5,098,758). Further, claims 1 and 3 have been rejected under 35 USC § 102(b) as being anticipated by EP '754 (EP 1031754).

Reconsideration and withdraw of each of these rejections is respectfully requested based on the following considerations.

The Present Invention and its Advantages

In the non-asbestos friction material of the present invention comprising a fibrous base, a binder, a filler and an abrasive, the abrasive includes zirconium silicate beads having an average particle size of 15 to 500 μm, thereby having good coefficient of friction characteristics, yet minimizing noise and mating surface attack. As described at "Prior Art" of page 1 of the instant specification, in conventional art, the particles of zirconium silicate generally employed for this purpose were produced from zircon sand as the starting material by milling, deironing and classification and they helped confer the material with a high coefficient of friction, but the zirconium silicate had a tendency to cause noise and mating surface attack (when included in a friction material) because they produced angular and irregular shapes.

Distinction over Kani US '758

The present invention (claim 1) is distinguished from Kani US '758.

Kani US '758 discloses at column 3 that as the inorganic filler constituting the resin mold base member, two types of fillers, i.e., a soft filler such as calcium carbonate and a hard filler such as zirconium silicate, are used in order to make the securing of the friction coefficient of the resin mold base member compatible with the attack tendency thereof against the mating component.

However, the constitution of Kani US '758 is the combination of two types of fillers which are a soft filler such as calcium carbonate and a hard filler such as zirconium silicate. That is, Kani US '758 teaches that not only zirconium silicate but also a soft filler (such as calcium carbonate) must be used as fillers. On the other hand, according to the present invention,

the object (e.g., good coefficient of friction characteristics, minimizing noise and mating surface attack) can be achieved even if a soft filler such as calcium carbonate is not employed.

Thus, the structure of the present invention is distinguished from that of Kani US '758.

Additionally, zirconium silicate disclosed in Kani US '758 falls within prior art since the particles of zirconium silicate employed in Kani US '758 is the same as generally used in conventional art. Namely, in conventional art, the particles of zirconium silicate generally used for this purpose are produced from zircon sand as the starting material by milling, deironing and classification. Since the zirconium silicate thus produced are angular and of irregular shape, they have a tendency to cause noise and mating surface attack when included in a friction material. In the working Examples Comparative Examples of instant specification, the differences between the present invention and prior art (i.e., Kani US '758) are described. For example, each of Comparative Examples 2 and 3, where not spherical zirconium but milled zirconium is employed in the composition, shows larger mating surface wear (μm) and poor noise performance. It is reasonable interpretation of those of ordinary skill in the art that a friction material disclosed in Kani US '758 corresponds to the results in Comparative Examples 2 and 3 in view of the shape of the zirconium silicate used in the frictional material.

Therefore, the present invention is distinguished from the composition of Kani US '758. The detailed means for solving the problem such as noise performance and mating surface attack is different from each other. While the composition of Kani US '758 has the combination of soft and hard fillers, the present invention is remarkable for the shape of zirconium silicate. Thus, the constitution for solving the problem is different from each other. Accordingly, Kani US '758 fails to disclose or suggest the present invention and the effects thereof.

Distinction over EP '754

EP '754 fails to disclose or suggest "the abrasive includes zirconium silicate beads having an average particle size of 15 to 500 μm", which is a feature of the present invention as recited in claim 1.

EP '754 states at page 3, lines 33-34 that the inorganic filler must have a 90% particle size of 0.1 to 8 μm. Further, two zirconium silicates employed in all of Examples and Comparative Examples of Table 1 of page 5 of EP '754 have the particle size of 10 μm and 1.5 μm. Thus, EP '754 teaches away from the present invention, which recites an average particle size of 15 to 500 μm of zirconium silicate beads.

Additionally, similar to Kani US '758, "zirconium silicate" disclosed in EP '754 falls in prior art, which is not zirconium silicate beads.

Accordingly, the present invention is neither anticipated by nor obvious over EP '754.

CONCLUSION

Based upon the amendments and remarks presented herein, the Examiner is respectfully requested to issue a Notice of Allowance clearly indicating that each of the pending claims 1 and 3- 12 are allowed under the provisions of Title 35 of the United States Code.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Gerald M. Murphy, Jr. (Reg. No. 28,977) at the telephone number below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

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